



## **Matrix-assisted laser desorption/ionization time of flight, MALDI-TOF, mass spectrometry for identification of fish pathogenic bacteria**

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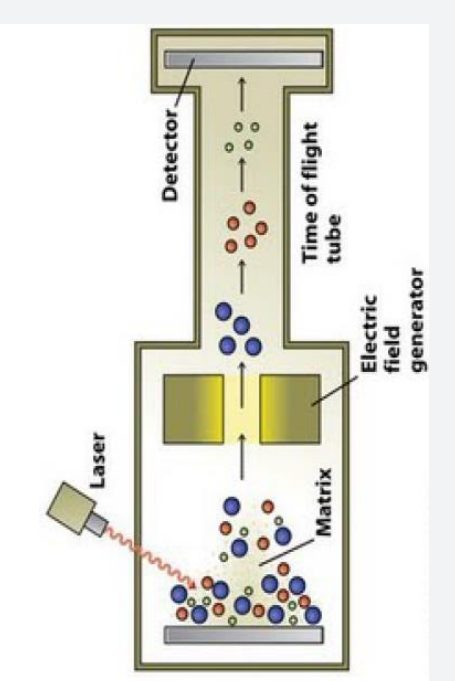
# Matrix-assisted laser desorption/ionization time of flight, MALDI-TOF, mass spectrometry for identification of fish pathogenic bacteria

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## Conclusions

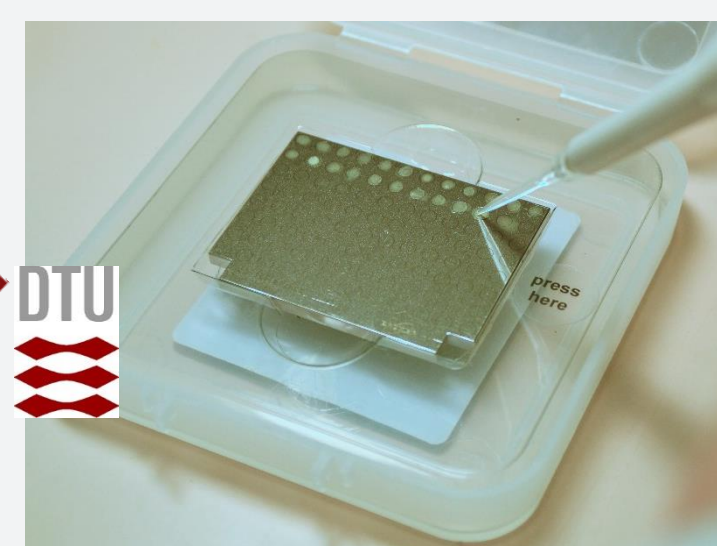
MALDI-TOF is a new useful, fast and cheap technology used in human diagnostics, also able to identify important fish pathogenic bacteria as *Flavobacterium columnare*, *F. psychrophilum*, *Vibrio anguillarum*, *V. vulnificus*, and *Yersinia ruckeri*. The technique has great potential to be improved and explored to identify also other important bacteria in aquaculture.



1. One fresh colony is picked from the agar...



2...and placed on the MALDi target plate



3...matrix solution is added, let to dry ...



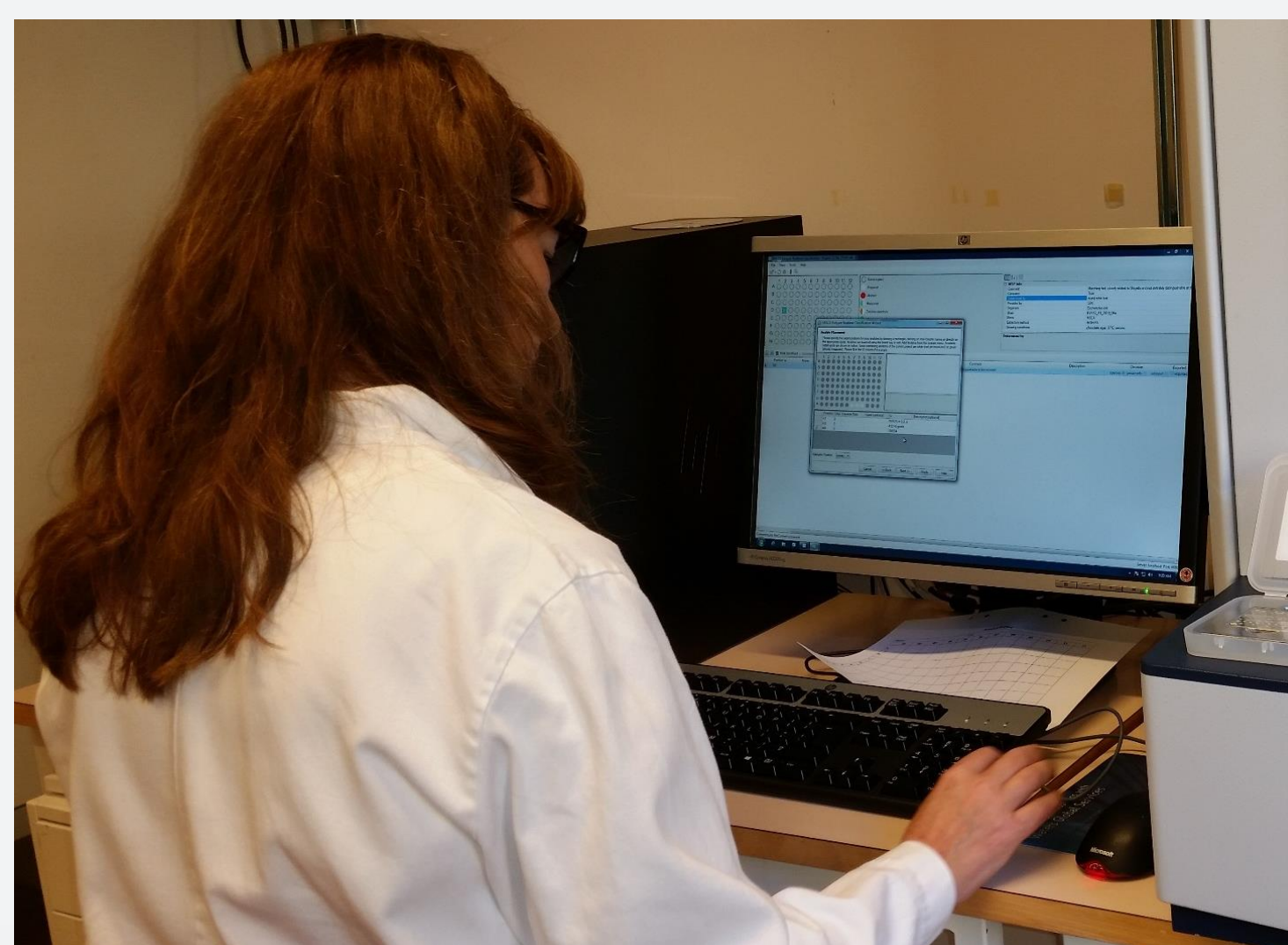
4. ...the MALDi target plate is inserted into the MALDI-TOF mass spectrometer for exposure to the laser beam.....

BRUKER

Analyse Name: Fp10  
Analyse Description: D:\Data\MSP\SCF psychrophilum\Fp10\Fp10\_011021581.in  
Analyse ID: 8182082-8402-496-926d-e913646807a  
Analyse Creation Date/Time: 12/3/2013 8:59:43 AM  
Applied MSP Library(es):  
Applied Taxonomy Tree: Bruker Taxonomy

Rank (Quality)	Matched Pattern	Score Value	NCBI Identifier
1 (+++)	Flavobacterium psychrophilum F6	2.733	J2642906d
2 (+++)	Flavobacterium psychrophilum SVA F300	2.47	J2642906d
3 (+++)	Flavobacterium psychrophilum F97	2.466	J2642906d
4 (+++)	Flavobacterium psychrophilum CCUG35200	2.412	J2642906d
5 (+++)	Flavobacterium psychrophilum F511	2.396	J2642906d

6. Similarity with the spectra in the database, given a score above 2.3 is classified as a good identification to bacterial species level.



5. ...the obtained spectrum is compared with spectra in a database.....

More detailed information about the evaluation of MALDI- TOF for fish pathogens can be found here:



## Acknowledgement

The authors gratefully acknowledge the financial support from the CoVet Lab foundation. This study was a part of the project: MALDI-TOF, mass spectrometry for identification of bacteria in veterinary medicine.



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